

DEFENSE LOGISTICS AGENCY

LAND AND MARITIME POST OFFICE BOX 3990 COLUMBUS, OH 43218-3990

August 26, 2013

Ms. Nellie Gutierrez TTM Technologies, Inc. Santa Clara Division 407 Mathew Street Santa Clara, CA 95050

Dear Ms. Gutierrez:

RE: Notification of Qualification, MIL-PRF-31032B, FSC 5998; CN040407, VQ (VQE-13-026953)

Qualification of your products is granted under the current issue of the specification as a result of successful qualification testing to Department of Defense Performance Specification MIL-PRF-31032, Printed Circuit Board/Printed Wiring Board, and associated specifications MIL-PRF-31032/1 and MIL-PRF-31032/2. The capabilities indicated below shall be listed on Qualified Manufacturers List QML-31032. The effective date of this qualification is August 26, 2013.

MANUFACTURER NAME & ADDRESS TTM Technologies, Inc. Santa Clara Division 407 Mathew Street Santa Clara, CA 95050	PLANT LOCATION Same	CAGE CODE: 65916 PHONE #: 408-486-3184 FAX #: 408-727-1003
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CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:

Specification: MIL-PRF-31032/1, MIL-PRF-31032/2

Qualification Letters: VQE-13-026953

Rigid Base Material: BF: Aramid Fabric, Nonwoven, Epoxy Resin

Max. Panel Size: 18" x 24"
Max. Number of Layers: 10
Max. Board Thickness: 0.076"

Min. Hole Size: 0.0197" Drilled Plated-Through Hole Before Plating

Aspect Ratio: 4:1 Through-Hole

Min. Conductor Width/Space: 0.012"/0.008"

Hole Preparation: Plasma Etchback, Chemical Desmear Hole Wall Conductive Coating: Electroless Copper

Copper Plating: Direct Current Plate

Hole Fill/Via Plug: Conductive

Solder Resist: Liquid Photoimageable

Finish System: ENIG

Test report number 31032-3970-13 has been assigned to your test data. This qualification is based on your MIL-PRF-31032 certification and is subject to the conditions stated below:

- 1. A listing on the Qualified Manufacturers List (QML) does not guarantee acceptance of the product(s) in any future purchase.
- 2. QML listing does not constitute a waiver of any requirements of the specification or of the provisions of any contract.
- 3. Advertising of qualification information is permitted. Permission to use such information for advertising or publicity purposes is granted provided that such publicity or advertising does not state or imply that the product(s) is the only product of that type qualified or that the Department of Defense in any way recommends or endorses the manufacturer's product.
- 4. The listing applies only to products produced in the plant(s) specified in this letter of notification of qualification and applies to future amendments or revisions of the specification, unless otherwise notified.
- 5. The listing applies only to materials and manufacturing construction techniques identical to or covered by that (those) qualified. The qualifying activity must be advised in advance of any change to the materials and manufacturing construction techniques. Failure to notify the qualifying activity of any change to the materials and manufacturing construction techniques is cause for removal from the QML.

Because we are held responsible for the accuracy and currency of this QML, please let us know if your company discontinues production utilizing these materials or processes. If you have any questions, please contact Mr. Lowell Sherman, (614) 692-0627 or vqe.ls@dla.mil.

Sincerely,

/SIGNED/

JOSEPH GEMPERLINE Chief Sourcing and Qualifications Division